

In the Claims:

1. (Currently Amended) A method of processing calls in an automatic call distributor having a plurality of agent groups, such method comprising the steps of:

training a system neural network with a set of desired resource relationships for servicing a plurality of call processing load conditions in the automatic call distributor;

training a group neural network for each of the plurality of groups to periodically process a plurality of inputs to determine an agent resource status for each group;

determining a set of operating parameters of the automatic call distributor;

the system neural network determining whether to reassign agents among agent groups of the plurality of agent groups based upon the training of the neural network, the respective status of the agent groups, and a group loading of the determined set of operating parameters; and

the neural system network determining whether to process calls for distribution to the plurality of agent groups based upon a call processor loading parameter of the determined set of operating parameters and the training of the neural network.

2. (Previously Presented) The method of processing calls as in claim 1 wherein the step of determining whether to process calls further comprises adjusting a ratio of inbound calls to outbound calls based upon the operating level of the automatic call distributor.

3. (Currently Amended) The method of processing calls as in claim 1 wherein the steps of ~~determining whether to reassign agents~~ training further comprises reassigning an agent of a first group to a second group comprise prompting the user to identify a database used to train the neural networks.

4. (Previously Presented) The method of processing calls as in claim 1 wherein the step of determining a set of operating parameters further comprises determining a number of calls that have been answered and are in a queue waiting to be assigned to an agent.

5. (Previously Presented) The method of processing calls as in claim 1 wherein the step of determining a set of operating parameters further comprises determining a number of available agents.
6. (Previously Presented) The method of processing calls as in claim 1 wherein the step of determining a set of operating parameters further comprises determining an average call waiting time of a call in a call queue.
7. (Previously Presented) The method of processing calls as in claim 1 wherein the step of determining a set of operating parameters further comprises determining an average call waiting time of a call for each group of the plurality of agent groups of the automatic call distributor.
8. (Previously Presented) The method of processing calls as in claim 1 wherein the step of determining a set of operating parameters further comprises determining a number of calls in a call queue for each group of the plurality of agent groups of the automatic call distributor.
9. (Previously Presented) The method of processing calls as in claim 1 wherein the step of determining a set of operating parameters further comprises determining an average waiting time between call arrival at the automatic call distributor and call acceptance.
10. (Currently Amended) Apparatus for processing calls in an automatic call distributor having a plurality of agent groups, such apparatus comprising:
 - means for training a system neural network with a set of desired resource relationships for servicing a plurality of call processing load conditions in the automatic call distributor;
 - means for determining a set of operating parameters of the automatic call distributor;
 - means for training a group neural network for each of the plurality of groups to periodically process n inputs to determine an agent resource status for each group;
 - means within the system neural network for determining whether to reassign agents among agent groups of the plurality of agent groups based upon the training of the neural

network, the respective resource status of the agent groups, and a group loading of the determined set of operating parameters; and

means within the system neural network for determining whether to process calls for distribution to the plurality of agent groups based upon a call processor loading parameter of the determined set of operating parameters and the training of the neural network.

11. (Previously Presented) The apparatus for processing calls as in claim 10 wherein the means for determining whether to process calls further comprises means for adjusting a ratio of inbound calls to outbound calls based upon the loading level of the automatic call distributor.

12. (Currently Amended) The apparatus for processing calls as in claim 10 wherein the means for ~~determining whether to reassign agents~~ training the system neural network further comprises means for ~~reassigning an agent of a first group to a second group~~ prompting a supervisor to select a neural network model.

13. (Previously Presented) The apparatus for processing calls as in claim 10 wherein the means for determining the set of operating parameters further comprises means for determining a number of calls that have been answered and are in a queue waiting to be assigned to an agent.

14. (Previously Presented) The apparatus for processing calls as in claim 10 wherein the means for determining the set of operating parameters further comprises means for determining a number of available agents.

15. (Previously Presented) The apparatus for processing calls as in claim 10 wherein the means for determining the set of operating parameters further comprises means for determining an average call waiting time of a call in a call queue.

16. (Previously Presented) The apparatus for processing calls as in claim 10 wherein the means for determining the set of operating parameters further comprises means for determining

an average call waiting time of a call for each group of the plurality of agent groups of the automatic call distributor.

17. (Previously Presented) The apparatus for processing calls as in claim 10 wherein the means for determining the set of operating parameters further comprises means for determining a number of calls in a call queue for each group of the plurality of agent groups of the automatic call distributor.

18. (Previously Presented) The apparatus for processing calls as in claim 10 wherein the means for determining the set of operating parameters further comprises means for determining an average waiting time between call arrival at the automatic call distributor and call acceptance.

19. (Currently Amended) Apparatus for processing calls in an automatic call distributor, such apparatus comprising:

a system neural network trained with a set of desired resource relationships for servicing a plurality of call processing load conditions in the automatic call distributor;

a determined set of operating parameters of the automatic call distributor;

as a group neural network for each group of the plurality of groups trained to periodically process n inputs to determine an agent resource status for each group;

the neural network being adapted to determine whether to reassign agents among agent groups of the plurality of agent groups based upon the training of the neural network, the respective resource status of the agent groups, and a group loading of the determined set of operating parameters; and

the system neural network being further adapted to determine whether to process calls for distribution to the plurality of agent groups based upon a call processor loading parameter of the determined set of operating parameters and the training of the neural network.

20. (Previously Presented) The apparatus for processing calls as in claim 19 wherein the neural network further comprises a proportioning processor adapted to adjust a ratio of inbound

calls to outbound calls based upon the loading level of the automatic call distributor.

21. (Previously Presented) The apparatus for processing calls as in claim 19 wherein the call neural network further comprises a group processor adapted to reassign an agent of a first group to a second group.

22. (Previously Presented) The apparatus for processing calls as in claim 19 wherein the determined set of operating parameters further comprises a call counter adapted to determine a number of calls that have been answered and are in a queue waiting to be assigned to an agent.

23. (Previously Presented) The apparatus for processing calls as in claim 19 wherein the determined set of operating parameters further comprises an agent activity processor adapted to determine a number of available agents.

24. (Previously Presented) The apparatus for processing calls as in claim 19 wherein the determined set of operating parameters further comprises a call timer adapted to determine an average call waiting time of a call in a call queue.

25. (Currently Amended) The method of processing calls as in claim 1 ~~further comprising providing a~~ wherein resource allocation is analyzed by the system neural network ~~for each agent group of the plurality of agent groups upon the receipt of each call request.~~

26. (Currently Amended) The method of processing calls as in claim 25 further comprising each group neural network of the plurality of agent groups processing n inputs associated with the respective agent group within the determined set of operating parameters to determine that the agent group has too many agents or not enough agents.

27. (Previously Presented) The method of processing calls as in claim 26 further comprising a host of the automatic call distributor matching a group having too many agents with a group having not enough agents and transferring an agent with appropriate qualifications from the group having too many agents to the group having not enough agents.

28. (Currently Amended) The method of processing calls as in claim 1 wherein the step of the system neural network determining whether to process another call for distribution to the plurality of agent groups based upon a call processor loading of the determined set of operating parameters and the training of the neural network further comprises the neural network processing a first set of inputs to determine whether to accept a call and processing a second set of inputs to determine whether to initiate a call.

29. (Currently Amended) A method of processing calls in an automatic call distributor having a plurality of agent groups, such method comprising the steps of:

- determining a set of operating parameters of the automatic call distributor;
- providing a group neural network for each agent group of the plurality of agent groups;
- training the group neural network of each agent group with a desired set of resource relationships for servicing a plurality of call processing load conditions of the group;
- each group neural network of the plurality of agent groups processing n inputs associated with the respective agent group within the determined set of operating parameters to determine a group status including an indicator that the agent group has too many agents or not enough

agents; and

a host of the automatic call distributor including a neural network adapted to determine whether to reassign agents by matching a group having too many agents with a group having not enough agents and transferring an agent with appropriate qualifications from the group having too many agents to the group having not enough agents based upon training of the neural network, the respective group status of the agent groups, and at least one of the operating parameters.

30. (Previously Presented) The method of processing calls in the automatic call distributor as in claim 29 further comprising providing a neural network for determining whether to process a call for distribution to the plurality of agent groups based upon a call processor loading parameter within the determined set of loading parameters.

31. (Previously Presented) The method of processing calls in the automatic call distributor as in claim 30 providing a first set of weighted inputs to the call processing neural network for deciding whether to accept a call and a second set of weighted inputs to the call processing neural network for deciding whether to initiate a call.

32. (Previously Presented) The method of processing calls in the automatic call distributor as in claim 29 further comprising providing a first set of neural network input weights for determining that an agent group has too many agents and second set of neural network input weights for determining that a group has not enough agents, where the first and second sets of

weights are different.